

Date: Sun, 28 Nov 93 04:30:10 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V93 #126
To: Ham-Ant

Ham-Ant Digest Sun, 28 Nov 93 Volume 93 : Issue 126

Today's Topics:

2m 5/8 wave to tall for g
50 ohm coax to 75 ohm coax transformer
Balanced feed lightning protection?
bowtie uhf antennas
Copper j-pole antenna - where?
Fixed antennas for satell
Ground rod "experiment" and the NEC. WARNING
KLM-34 Query
random wire antennas revisited..
The Best UHF/VHF TV antenna (2 msgs)
Vertical Tri-Bander

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 26 Nov 93 19:11:18 GMT
From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!agate!
iat.holonet.net!pubcon.fort-worth.tx@network.ucsd.edu
Subject: 2m 5/8 wave to tall for g
To: ham-ant@ucsd.edu

i uses a 5/8 magnetic mount on my mustang hatchback. easy to move when
i need to. just have to open the hatch and put it in. you could try a
shorter 1/4 wave on top of the car, it should fit nicely into the
garage. there are lots of alternatives out there. heck, get a radome
antenna. 73 b. wb5kxw

Date: 23 Nov 1993 23:02:39 GMT
From: nntp.ucsb.edu!library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!
sol.ctr.columbia.edu!news.columbia.edu!namaste.cc.columbia.edu!
mac20@network.ucsd.edu
Subject: 50 ohm coax to 75 ohm coax transformer
To: ham-ant@ucsd.edu

oh yeah, at 900MHz. would this be terribly complicated to homebrew?

I want to go from f-type connector 75-ohm "cable" coax to, get this,
9913 N-type coax. (the section of 75 ohm is just to match to the transceiver,
the 9913 has to run over 100')

How about if i can't lay my hands on a (900MHz) SWR meter?

(And i have to do it with one hand behind my back and blindfolded :-)

Thanks,
Mike Cecere
KF2NV

Date: Sat, 27 Nov 1993 16:09:15 GMT
From: netcomsv!netcom.com!mbutts@decwrl.dec.com
Subject: Balanced feed lightning protection?
To: ham-ant@ucsd.edu

What is a good way to provide lightning protection
to a balanced feedline coming into the shack?

I'm going to put up a center-fed dipole with
balanced feed (so-called Zepp), using 450-ohm
ladder line to my tuner in the shack. That
line is like big 'twin-lead', about 1-inch
wide, with air gaps in between. I'll be running
the line through a foam-stuffed PVC pipe
poked through the outside wall of the shack.

All the lightning protection devices I've seen
are for coax.

73 de KC7IT

Mike Butts, Portland, Oregon mbutts@netcom.com

Date: 26 Nov 93 19:47:15 GMT
From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!agate!
iat.holonet.net!pubcon.fort-worth.tx@network.ucsd.edu
Subject: bowtie uhf antennas
To: ham-ant@ucsd.edu

no. the bowtie is a relative of the folded dipole antenna. most
antennas are relatives of the dipole in one fashion or another. 73
wb5kxw

Date: 22 Nov 1993 06:45:02 GMT
From: news.sprintlink.net!news.world.net!teleport.com!genew@uunet.uu.net
Subject: Copper j-pole antenna - where?
To: ham-ant@ucsd.edu

Dick Partos (partos@larry.larc.nasa.gov) wrote:

: > Anyone out there know what issue of 73 had the construction article on a
: > copper j-pole antenna? Thanks.
: >K

: I'm pretty sure it was the April 1993 issue. I've been meaning to copy
: it myself.

Also see April 92 CQ "Electricians Delight" antenna.

73's
Gene
KB7WIP

Date: 26 Nov 93 19:31:42 GMT
From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!agate!
iat.holonet.net!pubcon.fort-worth.tx@network.ucsd.edu
Subject: Fixed antennas for satell
To: ham-ant@ucsd.edu

i dont know about transmitting, but as for recieving, a pair of crossed
dipoles, one fed 90 out of phase, with a screen reflector underneath, i
believe 1/4 wave below, is good for omnidirectional reception. just off
top of my head, i believe this is called a turnstile reflector array.
they were popular a few years ago. ive been thinking of constructing
one myself. if you beat me to it, let me know how yours does. 73 wb5kxw

Date: 27 Nov 93 18:26:48 GMT
From: sequent!muncher.sequent.com!tk@uunet.uu.net
Subject: Ground rod "experiment" and the NEC. WARNING
To: ham-ant@ucsd.edu

Good stuff follows...

>rossi@VFL.Paramax.COM (Pete Rossi) writes:
>
>(stuff deleted)
>
>> I am wondering what will
>>happen by directly connecting the two grounds together?

Then, in article <arog.754306586@BIX.com> arog@BIX.com (arog on BIX) writes:
>DON'T. There is enough difference in the electro-chemical series
>between the copper and the iron (and whatever zinc that is left)
>to do major damage to the water pipes in the ground. Making
>that connection means that you have an earth battery that is
>shorted and, in general, I'd expect the water pipe to loose.

Yes, the galvanized water pipe will eventually loose, depending a lot upon soil conditions. HOWEVER, if you want the installation to be "code" you MUST tie all the "communications grounding electrodes" to the power grounding electrode at the structure served with not less than #6 copper wire or equivalent. ('93 NEC 800-40d). The National Electrical Code also requires that interior metal water pipe be bonded to the grounded conductor at the service. (250-80a)

The reason for all this is the large differences in potential that can exist between "grounds" during fault conditions (nearby lightning strike, power line faults, etc.). There's a full page in the current NEC Handbook explaining the situation. There's also many pages showing acceptable grounding methods, conductors, electrode sizes, when buried pipe can be used, etc.

My suggestion to the original poster would be to scrap the copper pipes he drove in and replace them with 8ft 5/8" diameter standard steel ground rods. These critters are cheap and usually have very heavy galvanizing. Since both your water pipe and the rod are now of the same material, the corrosion should be much reduced.

>
>-----
>Alan, the retired building inspector, w6spk

Hmmm... I believe the bonding requirement was added in 1990. Evidently there were problems with CATV installations as cable was spreading rapidly throughout the country. Since the CATV system often presents a ground that's exposed to the consumer that may be different than the "power ground", a hazard can exist in some cases.

For those interested in real lightning and fault protection, the single point reference "ground window" is the only way to go. We won't talk about how I do it... :-) :-)

Disclaimer: Your local codes may not follow the NEC (unlikely) and Sequent doesn't take any responsibility for what I say.

73,
-Tom Kloos, WS7S, Sequent Computer Systems, Inc., Beaverton, OR tk@sequent.com

Date: 27 Nov 1993 18:30:24 GMT
From: swrinde!gatech!usenet.ins.cwru.edu!cleveland.Freenet.Edu!
al838@network.ucsd.edu
Subject: KLM-34 Query
To: ham-ant@ucsd.edu

I'm thinking of replacing my trusty Mosley TA-33 tribander with a KT-34XA.

Has anyone had any recent experience with this antenna?

Do I really need the heavy duty boom option?

Are these antennas difficult to put together and get working?

Any comments would be appreciated before I spend my hard earned cash.

73, Eric

--

Eric Grabowski, WA8HEB al838@cleveland.freenet.edu
Chagrin Falls, Ohio

Date: Sat, 27 Nov 1993 17:54:12 GMT
From: olivea!pagesat!direct!herald.indirect.com!kg7bk@uunet.uu.net
Subject: random wire antennas revisited..
To: ham-ant@ucsd.edu

Eric S Johansson (esj@harvee.billerica.ma.us) wrote:
: I'm thinking that a random wire antenna built out of
: magnet wire might be the best way to go till his parents get accustomed
: Thanks --- eric

Hope his rig has a tunable output stage, like pi or Z-match. If it is 50 ohms fixed, then it won't work well into a random wire without an antenna tuner.

73, Cecil, kg7bk@indirect.com

Date: Wed, 24 Nov 1993 01:39:41 GMT
From: nntp.ucsb.edu!library.ucla.edu!europa.eng.gtefsd.com!gatech!udel!gvls1!
hpwisf1.han.paramax.com!raichel@network.ucsd.edu
Subject: The Best UHF/VHF TV antenna
To: ham-ant@ucsd.edu

Receiving stations CONSISTANTLY from 300 miles away can be difficult. It should be much easier for VHF stations than for UHF stations. The key is to get the antenna up as high above the average elevation as possible.

I find that I can consistently receive UHF stations 100 miles away with my Radio Shack VU190 (former top of the line antenna), at 33 feet. Anything farther is inconsistent, though in the summer I can receive some NYC stations 200 miles away, but in the winter, I almost never can receive them. I can not really test the VHF performance of this antenna since every other VHF station is LOCAL (I can see many of the towers from my roof), so overload the tv, causing adjacent stations to be unwatchable except under extraordinary propagation.

I do not recommend the Radio Shack antenna for city use, since it has a horrible pattern, and is VERY sensitive to nearby metal such as aluminum siding. This causes ghosting that changes with weather conditions, wind, and motion of other antennas - even if they are 8 feet away! Of course these problems are reduced for distant stations, since there are fewer multipaths to choose from.

I think that the log periodic antenna in general is sensitive to nearby metal. I have looked at other designs, but have not purchased anything yet. I called Channel Master, and they sent me lots of useful information on their antennas. The cleanest pattern UHF antenna that they had was the model 4228A. It is a 8 bow-tie array with screen reflector 4 feet by 3 feet (approx), and has flat, reasonable gain. The highest gain antenna was the UHF Parascope model 4251. It is a 7 foot parabolic dish.

It has LOTS of gain (up to 19db!!) at the upper end, but had a very messy pattern, and the gain is highly variable. (often more gain than front to back ratio).

Of course you could look into building your own. A surplus 12 foot dish, on a 50 foot tower, using a dual bow-tie array as a UHF feed would be very hard to beat! Of course there are some mechanical, and cost issues involved with this! A rotor could be an interesting mechanical design project! :-)

I find that a preamp is useless in my setup since the strong local stations (I have 17 of them), will hopelessly overload any but the most robust preamp. I REALLY wish that someone would sell a preamp with a remotely tuneable interdigital filter in it! But in remote areas, a preamp will probabaly help, since they have no strong stations to overload the preamp.

Another important consideration is the feedline. I reccommend that you look at hamfests, or a cable TV company, and see if you can get some cheap 1/2 inch or 7/8 inch hardline feedline. Cable TV companies use MILES of this stuff, so they routinely throw out short 100 foot sections, etc. This thick line has VERY low loss even at UHF frequencies.

If you MUST use smaller cable (easier to route through the house), I would reccommend the RG6 cable. It is fairly low loss, compared to RG59.

alan

Name: Alan Raichel If you think the answer is simple,
Call: N3IKI then you probabaly don't understand
Inet: raichel@han.paramax.com the question.
ICBM: 39'10' N 76'30' W #include <std_disclaimer.h>

Date: Sun, 21 Nov 93 18:29:55 CST
From: tribune.usask.ca!canopus.cc.umanitoba.ca!bison!sys6626!inqmind!
tmantler@decwrl.dec.com
Subject: The Best UHF/VHF TV antenna
To: ham-ant@ucsd.edu

chris@peds.ufl.edu (Thad Wilson) writes:

> Does anyone have a suggestion for a UHF/VHF TV antenna? Whats the best
> signal amplifier to use? Is it possible to receive TV signals clear of
> static from 300 miles?

First I have to say, BE CAREFUL WHEN YOU GET A TV AMPLIFIER! A lot of the ones on the market (No names mentioned) are really just cr*p, some of them have inadequate shielding, and most (if not all) have noisy amplifiers, not to say that any amps are better because the more you have between the air and your tv --> the more noise you get. I would suggest getting a good high gain antenna rather than spending your money on an amp, because the fact is: if a tv signal is below the noise level, no amount of amplifying will get it out of the noise. SO, make sure you hget a good QUALITY antenna, and don't try saving too mutch money on cheap cable --> you will only get trouble!

And lastly, I sugest getting a local HAM op to help you in your decision on diferend models of antennas, they should help you make the right choice.

Tony Mantler, Winnipeg --> VE4TEM

tmantler@inqmind.bison.mb.ca-
The Inquiring Mind BBS, Winnipeg, Manitoba 204 668-8845

Date: Sat, 27 Nov 1993 18:31:04 GMT
From: olivea!pagesat!direct!herald.indirect.com!kg7bk@uunet.uu.net
Subject: Vertical Tri-Bander
To: ham-ant@ucsd.edu

Arlan R Levitan (arl00@juts.ccc.amdahl.com) wrote:
: Are my expectations reasonable?
: Arlan KB8QLV

Arlan, The ARRL Antenna Handbook says that a discone has a similar radiation pattern to a 1/4 wavelength vertical ground plane antenna. Therefore the gains advertised by Diamond and Comet are referenced closely to what you experienced with the discone. The gain of the Diamond and Comet comes from focusing more energy in the horizontal and less in the vertical. Each 3db of additional gain doubles your effective power so you should radiate a signal four times more powerful in the horizontal with the new antenna. (These antennas will not work as well as your discone for satellite communications.) If you can hit those distant repeaters with four times the power on your discone, then you should be able to hit them with your new Comet or Diamond. 9913 is good. RG-58 is bad for vhf/uhf except for very short runs. I have a MAX2x4 and the improvement over a 1/4 wavelength ground plane antenna is almost unbelievable. I hit repeaters 100 miles away.

73, Cecil, kg7bk@indirect.com

Date: 27 Nov 93 16:30:49 GMT
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu
To: ham-ant@ucsd.edu

References <CGvI21.57u@freenet.carleton.ca>,
<1993Nov23.090923.28075@ke4zv.atl.ga.us>, <2d2qak\$pb7@osiris.kbfi.ee>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: Need advise on AM radio ant. & reception

In article <2d2qak\$pb7@osiris.kbfi.ee> ylo@osiris.kbfi.ee (Ylo Mets) writes:

>
>About the capacitance and the number of turns. I am using 11 turns of 1 mm
>wire around two crossed 3 feet long bars. With a 20 - 480 pF capacitor it tunes
>from 540 to 1800 kHz, which gives about 180 uH. For reducing the parasitic
>capacitance I have left 4 mm spacing between the turns.

The spacing can make a big difference. I assumed 10 mm total for the coil while you're using 44 mm. This is useful information because it illustrates that varying the turn spacing can help to tune the system to the desired frequency range.

Gary

--
Gary Coffman KE4ZV | Where my job's going, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | I don't know. It might | uunet!rsiatl!ke4zv!gary
534 Shannon Way | wind up in Mexico. | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | -NAFTA Blues |

End of Ham-Ant Digest V93 #126

